

MEMORANDUM

TO: Wayne Hanson *W.H.*, *J.K.*, *J.S.*, *D.G.*, *D.O.*

FROM: Tom Bispham *T.B.*

SUBJECT: Plant Survey at Kaiser Gypsum, St. Helens, Oregon

On 16 September 1969, Bob Harris and myself met with Mr. Jack Cassidy, Plant Manager of Kaiser Gypsum. Our purpose was to inform Mr. Cassidy of the recent odor complaints and conduct a plant survey for the identification of other possible sources of air pollution. This plant produces a variety of items ranging from basic wood fiber board to mineral wool board. The products are used for acoustical and insulating properties.

Plant Survey

This plant employs 250 people and some phase of operation, if not the entire plant, is in production 365 days per year.

Boilers

Three automatic Erie boilers are operated in series, each producing 20,000 lbs/of steam.

Coen burners.

Operators do not have a view of the stack nor a means of emission detection.

Fuel used is natural gas with bunker C oil for standby. In August 1969, 712,000 therms were burned which is probably close to an average monthly consumption. Fuel costs average close to \$1000/day. During a normal year the plant may be on oil for approximately 25-30 days.

Basic Board Production

Basic board is the main production item of this plant. With an exception of four days per month when the plant is producing mineral wool board, basic board production will be conducted 24 hrs/day, 7 days/week. Capacity is 150 tons/day (350,000 sq. ft.) or 10 million sq.ft./mo. of 3/8" to 1" thickness.

Raw materials are simply sawdust and wood chips (Douglas fir, spruce, hemlock, and white fir). Process flows is described on the attached sheet.

Remanufacturing

Of the 150 tons of basic board produced daily, 75 tons is shipped and the remaining 75 tons will undergo some form of remanufacturing. The various remanufacturing process is described below.

Tile Lines

Prior to entering the tile line, basic board is passed through a planer, V-jointer, and a calender machine (coating applicator, water soluble). The fibers

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from the planer and jointer are vented through the heading cyclone. The calender machine presents no problem.

These tele lines are utilized for the manufacturing of lay-in board for acoustical ceilings, planks, and mobile home ceilings. This operation is conducted 5 days/week, 24 hours/day. Lines #1 and #2 are identical; the basic board undergoing cutting, painting, drying, recutting, and wrapping. Emission from cutting are vented to a 12' diameter cyclone. As water base paint is used, no problem is created. Fifteen tons/day is processed in these lines, namely items such as lay-in ceiling tile.

Tile line #3 is basically the same as #1 and #2 except the only product is 4' ceiling board which is used in mobile homes. The resaw on this line is vented to a 10' diameter cyclone. 45 tons/day is processed thru this line.

It is unknown at this date whether these cyclones are in compliance.

Asphalt Coating

Basic board from the headrig is removed to a building used expressly for asphalt coating. The board is passed through an uncontrolled asphalt saturator (both sides saturated), cooled by water and conveyed to the wrapping area. Some resawing occurs here, the dust being vented to a small cyclone and then to the headrig cyclone. This operation takes place 1-2 dys/wk for 8 hour periods. Fifteen tons/day is processed.

Expansion Jointing

Basic board is again removed to a separate building for this operation. The board is immersed in a tank containing asphalt and a naptha solvent. It is then dried on a steam heated kiln. The odors from the coating and drying operation emit extremely strong odors. This 8 hr. operation occurs 2-3 days per month. This paint is used on sidewalks, etc.

Mineral Wood Board

Mineral wool board is one item produced which is also used for ceilings and insulation. Its desirable qualities are that it is non-combustible and stronger than basic board. Production occurs approximately 4 days per month. Capacity is 150 tons/day. As mentioned before, when this item is in production, basic board production is down, as the same manufacturing and control equipment is used.

The raw materials used are, mineral wool, clay and starch. They are introduced into the Fourdrinier board forming machine. (described on the flow chart.)

Paint

Kaiser Gypsum mixes its own paints. This is a water base paint and presents no air pollution problem. 60,000 gallons are produced each month.

Waste disposal

Currently approximately 2 cubic yards of paper sacks and crates are generated daily. Kaiser Gypsum is disposing of this waste by open burning.

Air Pollution Problems

Open burning - Mr. Cassidy was informed that this is a problem which we expected him to clear up as soon as possible. Although the area is out of the public's sight, Kaiser Gypsum does employ a large number of people who are aware of this practice. He informed us that his desire is to utilize his waste by installing a hydropulper and putting the residue back into the process. We informed him that the time required for approval, 3 months, was too long and that we expected him to use total haulaway and would be applying the appropriate pressure to do so.

Odor - Extremely strong odors are emitted from both the asphalt saturator and expansion joint operation. This problem is one which the Columbia County Health Department is reviewing complaints. Kaiser Gypsum is in hopes of discontinuing this line. However, no date is foreseeable. Mr. Cassidy was told that odor surveys would be conducted.

Opacity

Mr. Cassidy was told that in all probability that the asphalt saturator was in violation. However, readings have never been taken. This will be done in the near future.

Also the cyclone emissions have never been documented. This is also scheduled in the near future.

The following control program was outlined to Mr. Cassidy:

Field personnel would conduct odor surveys and opacity readings on the sources which appeared to be a problem. When the problem areas have been clearly defined to our satisfaction, CWAPA representatives would meet with Kaiser Gypsum and outline these areas and what we expected from Kaiser Gypsum.

This program was acceptable to Mr. Cassidy. As several of these sources are within the plant, he requested we check in with the office when travelling through the plant.

In his absence, contact Assistant Manager Murel Kontny.